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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/823,973	04/03/2001	Kenichiro Mori	684.3170	9679

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EXAMINER

ESPLIN, DAVID B

ART UNIT PAPER NUMBER

2851

DATE MAILED: 02/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/823,973

Applicant(s)

MORI, KENICHIRO

Examiner

D. Ben Esplin

Art Unit

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 18-26, 29-31, 34 and 37-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26, 31, 34 and 39 is/are allowed.
- 6) ☒ Claim(s) 18-22, 24, 25, 29, 30, 37 and 38 is/are rejected.
- 7) ☒ Claim(s) 23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/22/04 has been entered.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 18-22, 24, 25, 29, 30, 37, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,211,544 to Shiraishi (Shiraishi) in view of U.S. Patent No. 5,659,429 to Kudo (Kudo '429).

FIG. 20 of Shiraishi shows an illumination optical system including a diffractive optical element (diffraction grating 12), an angular distribution transforming unit (lens system 71), a multiple beam producing unit (fly-eye lens 72), a light projecting element (condenser lens 75), and a blocking member (spatial filter 16). The blocking member is shown as adjacent to a light exit surface of the multiple beam producing unit. Further, Shiraishi describes the location of the

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diffractive optical element as being at the Fourier transform plane of the multiple beam producing unit (col. 28 lines 54-58). Also disclosed, is the used of an adjustable optical element (lens system 73) disposed between the diffractive optical element and the multiple beam producing unit (col. 30 lines 29-32). Still further Shiraishi discloses that both the diffractive optical element and the blocking member are demountable (col. 6 lines 8-9 and 66-67).

Shiraishi is silent concerning the angular distribution transforming unit including a plurality predetermined distributions produced in part by moving an optical element movable along an optical axis direction. However, FIG. 10A of Kudo '429 shows an illumination optical system including a plurality of optical elements (lenses 3a and 3b) that are placed in the optical path in order to suit adjustable downstream light processing (turret plate 51)(col. 9 lines 31-36). Kudo further teaches that the plurality of optical elements may be movable along an optical axis direction in order to adjust the angular distribution of light (focusing characteristics, see col. 11 lines 60-65). Since the illumination optical system of Shiraishi also includes adjustable downstream light processing (interchangeable diffractive optical unit and blocking member), it would have been obvious to include a plurality of interchangeable optical elements in the angular distribution transforming unit of Shiraishi, each lens providing a unique predetermined distribution, in order to better adapt to light processing adjustments made downstream of the angular distribution transforming unit.

### ***Response to Arguments***

Applicant's arguments with respect to claims 18-22, 24, 25, 29, 30, 37, and 38 have been considered but are moot in view of the new ground(s) of rejection.

***Allowable Subject Matter***

Claims 26, 31, 34, and 39 are allowed.

Claim 23 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to D. Ben Esplin whose telephone number is (571) 272-2117. The examiner can normally be reached on Mon.-Fri. (8am-4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russell E. Adams can be reached on (571) 272-2851. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
DBE

  
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